

IN THE CLAIMS:

1. (previously amended). A tape printing apparatus for printing an image on an image receiving tape comprising:

a thermal print head for printing an image on an image receiving tape, said thermal print head having a first mode of operation and a second mode of operation;

receiving means for receiving in said first mode of operation a supply of image receiving tape and a supply of ink ribbon for providing an image on the image receiving tape, and in second mode of operation a supply of thermally sensitive image receiving tape;

driving means for driving the ink ribbon;

control means for controlling said thermal print head, and

detecting means for detecting a characteristic indicative of movement of the ink ribbon to determine if an ink ribbon is present or absent in said receiving means and for providing a signal to said control means indicative of the presence or absence of the ink ribbon, said control means acting to control said thermal print head to operate in said first mode of operation when the ink ribbon is present and in said second mode of operation when the ink ribbon is not present.

2 (previously amended) A tape printing apparatus for printing a label on an image receiving tape comprising:

a print zone;

a thermal print head located at said print zone for printing the label on the image receiving tape as the image receiving tape passes through said print zone, said thermal print head having a first mode of operation and a second mode of operation;

control means for controlling the thermal print head;

receiving means for receiving in said first mode of operation a supply of image receiving tape and a supply of an ink ribbon for providing an image on the image receiving tape and in said second mode of operation a supply of thermally sensitive image receiving tape;

detecting means for detecting a characteristic indicative of the presence or absence of the ink ribbon and for providing a signal to the control means indicative of the presence or absence of the ink ribbon, wherein said control means controls the print head to have said first mode of operation when ink ribbon is present and said second mode of operation when no ink ribbon is present;

cutting means for separating the printed label from the supply of the image receiving tape; and

a support member to support the ink ribbon, wherein said support member having a first position when the ink ribbon is present and a second position when no ink ribbon is present, said detecting means being positioned to detect a characteristic indicative of the position of said support member to determine if the ink ribbon is present or absent.

3 (cancelled).

4 (previously amended). A tape printing apparatus as claimed in claim 2, further comprising:

driving means for driving the ink ribbon, wherein said support member is a rotatable support member having gear means, said gear means having a first position in which said gear means is coupled to said driving means when the ink ribbon is present and a second position when the ink ribbon is not present, said detecting means being positioned to detect a characteristic indicative of whether said gear means is in said first position or said second position.

5 (previously amended). A tape printing apparatus as claimed in claim 4, wherein said detecting means is positioned to detect the position of the gear means.

6 (previously amended). A tape printing apparatus as claimed in any of claims 4 to 5, wherein said detecting means is positioned to detect the position of the support member.

7(cancelled).

8(cancelled).

9(cancelled).

10 (previously amended). A tape printing apparatus as claimed in claim 1, further comprising:

a rotatable support member, wherein the ink ribbon is mounted on said rotatable support member, and said detecting means is positioned to detect a characteristic indicative of rotational movement of the ink ribbon.

11 (previously amended). A tape printing apparatus as claimed in claim 10, wherein said rotatable support member has a first speed of rotation when the ink ribbon is present and a second speed of rotation when no ink ribbon is present, and said detecting means is positioned to detect a characteristic indicating the speed of rotation of said rotatable support member.

12 (previously amended). A tape printing apparatus as claimed in claim 11, wherein said rotatable support means is driven by said driving means, said rotatable support means rotating more quickly when no ink ribbon is present as compared to when the ink ribbon is present.

13 (previously amended). A tape printing apparatus as claimed in claim 10, further comprising:

take up means for taking up the ink ribbon, wherein said rotatable support member is positioned to support said take up means, when present, after the ink ribbon has been driven by said driving means past said print head.

14 (previously amended). A tape printing apparatus as claimed in claim 10, further comprising:

a slipping clutch, wherein said driving means includes a driving gear, said rotatable support member is coupled via said slipping clutch to said driving gear, whereby when no ink ribbon is present said support member rotates at the same speed as said driving gear and when the ink ribbon is present said slipping clutch slips so that said rotatable support member rotates at a lower speed than said driving gear.

15 (previously amended). A tape printing apparatus as claimed in claim 11, wherein said support member for supporting the supply of the ink ribbon is freely rotatable

such that the rotatable support member is substantially stationary when no ink ribbon is present and rotates when the ink ribbon is present.

16 (previously amended). A tape printing apparatus as claimed in claim 11, further comprising:

a reel for the ink ribbon, wherein, in use, said reel is supported on said rotatable support member, and wherein said detecting means are positioned to monitor the speed of rotation of said reel to thereby provide an indication of the speed of rotation of said support member.

17 (previously amended). A tape printing apparatus as claimed in claim 16, wherein said reel is provided with a surface having a plurality of markings, said detecting means being positioned to detect the markings as the reel rotates with the rotatable support means to provide an indication of the speed of the rotatable support means.

18 (previously amended). A tape printing apparatus as claimed in claim 11, wherein said rotatable support member includes a member, and wherein said member rotates with said rotatable support member, and said detecting means is positioned to detect the rotation of said member to provide an indication of the speed of the rotatable support member.

19 (previously amended). A tape printing apparatus as claimed in claim 18, wherein said member comprise a disc having a plurality of markings and the detecting means is positioned to detect the markings as the disc rotates with the rotatable support member to provide an indication of the speed of the support member.

20 (previously amended). A tape printing apparatus as claimed in claim 19, wherein said markings comprise a plurality of holes in said disc and said detecting means comprises a light source and a detector.

21 (previously amended). A tape printing apparatus as claimed in claim 1, wherein said detecting means comprises a movable member having a first position when the ink ribbon is present and a second position when no ink ribbon is present, and the detecting means is positioned to determine the position of said movable member.

22 (previously amended). A tape printing apparatus as claimed in claim 21, wherein said movable member is positioned to be in said second position when a supply of the ink ribbon is present and stationary, and to move to said first position only when the ink ribbon is driven by said driving means.

23 (previously amended). A tape printing apparatus as claimed in claim 1, wherein in said first mode of operation of said print head, said print head energy requirements are at a first level and in said second mode of operation of said print head, said print head energy requirements are at a second level.

24 (previously amended). A tape printing apparatus as claimed in claim 23, wherein said print head energy requirements are changed by altering one or more of the following print head operating parameters:

a voltage applied to each printing element of said print head;

the length of time for which each printing element of said print head is activated; and

the number of times that each printing element of said print head is activated for the same set of print data.

25 (previously amended). A tape printing apparatus as claimed in claim 1, wherein in said first mode of operation, the image receiving tape and the ink ribbon are received in a first cassette and in a second cassette, and in said second mode of operation, the image receiving tape is received in a second cassette.

26 (previously amended). A tape printing apparatus as claimed in claim 1, wherein in said first mode of operation, the image receiving tape and the ink ribbon are received in separate cassettes and in said second mode of operation, the image receiving tape is received in a cassette.

27 (previously amended) A tape printing apparatus as claimed in claim 25, wherein said first cassette has an aperture in a first location for receiving said support member and said second cassette has an aperture for receiving said support member in a second location such that said first cassette causes the rotatable support member to be in said

first position and said second cassette causes the support member to be in said second position

28 (previously amended). A tape printing apparatus as claimed in claim 1, wherein said detecting means is positioned to detect a characteristic indicative of the power consumed by said driving means, such that the power consumed is greater when the ink ribbon is present as compared to when no ink ribbon is present.

29 (previously amended) A tape printing apparatus as claimed in claim 28, wherein said characteristic indicative of the power of said driving means is the drive current applied thereto.

30 (previously amended) A tape printing apparatus as claimed in claim 1, further comprising: means for determining when a supply of image receiving tape is first inserted or replaced, whereby the tape printing apparatus is positioned so that the mode of operation of said print head is only determined when said means for determining determines that a supply of image receiving tape has been inserted or replaced.

31 (cancelled)

32 (previously amended). A cassette for use in a printing apparatus comprising a housing in which a reel holding a supply of ink ribbon is arranged, said reel being rotatable with respect to said housing and having a plurality of markings thereon, said housing being arranged so that said markings are detectable by detecting means external to said cassette to provide information relating to the rotation of said reel.

33(original). A cassette as claimed in claim 32, wherein said reel supports a supply of unused ink ribbon or a supply of ink ribbon which has been used.

34(previously amended). A cassette as claimed in claim 32, wherein said housing is provided with an opening through which said markings are detectable.

35(original). A cassette as claimed in claim 34, wherein said opening comprises substantially transparent material.

36 (amended). ~~A cassette as claimed in claim 32 in combination with a tape printing apparatus as claimed in claim 17, further comprising a cassette for use in a printing apparatus comprising a housing in which a reel holding a supply of ink ribbon is arranged, said reel being rotatable with respect to said housing and having a plurality of markings thereon, said housing being arranged so that said markings are detectable by the detecting means external to said cassette to provide information relating to the rotation of said reel, wherein the cassette is operably attached to the tape printing apparatus.~~

37(previously amended). A tape printing apparatus for printing an image on an image receiving tape, comprising:

a thermal print head for printing an image on the image receiving tape, said thermal print head having a first mode of operation and a second mode of operation;

receiving means for receiving in said first mode of operation a supply of image receiving tape and a supply of ink ribbon for providing an image on the image receiving tape, and in said second mode of operation a supply of thermally sensitive image receiving tape;

control means for controlling said thermal print head;

means for directing the image receiving tape along a first path in said first mode of operation and the thermally sensitive image receiving tape along a second path in said second mode of operation; and

detecting means for determining when the image receiving tape follows said first path or the thermally sensitive image receiving tape follows said second path for providing a signal to said control means indicative of the path of the image receiving tape and the thermally sensitive imaging tape, said control means being positioned to control said thermal print head to operate in said first mode of operation when the image receiving tape follows said first path and said second mode of operation when the thermally sensitive image receiving tape follows said second path.

38(previously amended). A tape printing apparatus for printing an image on an image receiving tape, comprising:

a thermal print head for printing an image onto the image receiving tape, said thermal print head having a first mode of operation and a second mode of operation;

receiving means for receiving in said first mode of operation a supply of image receiving tape and a supply of ink ribbon for providing an image on the image receiving tape, and in said second mode of operation a supply of thermally sensitive image receiving tape;

control means for controlling said thermal print head;

driving means for driving the image receiving tape and the ink ribbon, when present, past said thermal print head; and

detecting means for detecting a characteristic indicative of the presence or absence of the ink ribbon, and for providing a signal to said control means indicative of the presence or absence of the ink ribbon, said control means controlling said thermal print head to operate in said first mode of operation when the ink ribbon is present and in said second mode of operation when no ink ribbon is present, wherein said detecting means is arranged to detect a characteristic indicative of the power consumed by said driving means, such that said driving means consumes more power when the ink ribbon is present as compared to when no ink ribbon is present.

39(previously amended). A tape printing apparatus for printing an image on an image receiving tape, comprising:

a thermal print head for printing an image on the image receiving tape, said thermal print head having a first mode of operation and a second mode of operation;

receiving means for receiving in said first mode of operation a supply of the image receiving tape and a supply of ink ribbon for providing an image on the image receiving tape, and in said second mode of operation a supply of thermally sensitive image receiving tape;

control means for controlling said thermal print head;

driving means for driving the image receiving tape and the ink ribbon, when present, past said thermal print head; and

detecting means for detecting a characteristic indicative of the presence or absence of the ink ribbon and for providing a signal to said control means indicative of the presence or absence of the ink ribbon, said control means controlling said thermal print head to operate in said first mode of operation when the ink ribbon is present and said second mode of operation when no ink ribbon is present, and said detecting means is positioned to detect a characteristic of the load applied to said driving means, such that the load applied to

said driving means is greater when the ink ribbon is present as compared to when no ink ribbon is present.

40(previously amended). A tape printing apparatus as claimed in claim 1, further comprising:

a platen which is engageable by said thermal printing head during each mode of operation of said thermal printing head.

41(previously amended). A tape printing apparatus as claimed in claim 40, wherein said platen is mounted for rotation within a cage moulding.

42(previously amended). A tape printing apparatus as claimed in claim 2, further comprising:

a platen which is engageable by said thermal printing head during each mode of operation of said thermal printing head.

43(previously amended). A tape printing apparatus as claimed in claim 42, wherein said platen is mounted for rotation within a cage moulding.

44 (new). A cassette for use in a printing apparatus, said cassette comprising a housing in which a reel holding a supply of tape is arranged, said reel being rotatable with respect to said housing and having a plurality of markings thereon, wherein rotation of the reel moves at least one marking into and out of a detection area, said housing being arranged so that when the at least one marking is in the detection area the marking is detectable by a detector external to said cassette, wherein the detector provides a signal relating to the rotation of said reel.

45 (new). A cassette of claim 44, wherein the tape is ink ribbon and the first reel supports a supply of unused ink ribbon.

46 (new). A cassette of claim 44, wherein the tape is ink ribbon and the first reel supports a supply of ink ribbon which has been used.

47 (new). A cassette of claim 44, wherein the tape is image-receiving tape and the first reel supports a supply of unused image-receiving tape.

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48. (new) A cassette of claim 44, wherein the housing comprises an opening between the detector and the detection area.

49. (new) A cassette of claim 44, wherein the housing comprises a transparent material between the detector and the detection area.
